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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,913	09/05/2000	Werner Opitz	H 3266 PCT/US	2582

7590 11/30/2005

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EXAMINER

SINES, BRIAN J

ART UNIT PAPER NUMBER

1743

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/600,913

Applicant(s)

OPITZ ET AL.

Examiner

Brian J. Sines

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 15-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 15-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 36 and 37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding claim 36, the claimed subject matter in part (d) appears to be not supported by the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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1. Claims 1, 15 and 18 – 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mackenzie (U.S. Pat. No. 2,042,347) in view of Tittle (U.S. Pat. No. 4,886,590) (hereinafter “Tittle ‘590”), and further in view of Tittle (U.S. Pat. No. 4,950,610) (hereinafter “Tittle ‘610”).

Regarding claims 1, 18 & 35 – 37, Mackenzie teaches the determination of the alkalinity via titration of an alkaline cleaning bath containing an emulsifier or surfactant, which inherently utilizes an acid-base reaction, by the addition of an acid solution (see the *Alkalinity test* section, p. 2). In addition, Mackenzie further teaches that during the process of using the cleaning bath, the concentration of the alkali component will vary. Therefore, the addition of a replenishing component, such as an alkali agent, will be necessary to bring the cleaning bath to a proper effective concentration (see p. 3).

Mackenzie is silent to the automation of the disclosed process. As evidenced by Tittle ‘590, the utilization of automated chemical process and control systems and methods are well known in the art. Tittle ‘590 teaches an automated chemical process control system and process in which a cleaning bath composition is monitored and controlled utilizing a titration apparatus (see col. 3, lines 14 – 31; col. 4, lines 23 – 56; col. 5, lines 35 – 51; col. 9, lines 19 – 57). Tittle ‘610 is incorporated by reference by Tittle ‘590 (see Tittle ‘590, col. 3, lines 41 – 48). Tittle ‘610 teaches a titration apparatus and an associated method of using the titration apparatus. Tittle ‘610 teaches that titrant may be an acid if the purpose of the titration is to determine the alkalinity of the liquid abstracted from vessel 3 (see col. 8, lines 5 – 23). Tittle ‘610 teaches that depending upon the results of the titration, reagents may be added to the liquid in vessel 3 in order to bring or replenish the concentration of a particular species within desired limits (see col. 8, lines 56 – 64). The Courts have held that to provide a mechanical or automatic means to

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replace manual activity, which accomplishes the same result, is within the ambit of a person of ordinary skill in the art. See *In re Venner*, 120 USPQ 192 (CCPA 1958). Furthermore, Tittle '610 do disclose the benefits of using an automated titration system and method (see col. 1, lines 1 – 46). Therefore, it would have been obvious to a person of ordinary skill in the art to provide an automated chemical process and control system and associated methodology to perform the claimed method as recited in claims 1, 18 & 35 – 37.

Regarding claim 15, Tittle '610 teach the step of utilizing a filter to remove particulate matter from a sample prior to analysis (see col. 3, lines 41 – 60). Since the disclosure of Tittle '590 pertains to cleaning baths as well, which may contain residual particulate matter, it would have been obvious to a person of ordinary skill in the art to incorporate a filtering step before analysis.

Regarding claim 19, Tittle '610 teach that the withdrawn sample is supplied to the titration apparatus (see col. 3, lines 4 – 31). Therefore, it would have been obvious to a person of ordinary skill in the art to contemplate the step of determining sample alkalinity via the titration of an acid by addition of the withdrawn sample.

Regarding claims 20 – 24, 34, 36 and 37, Tittle '590 teaches the use of a computer and including automatic monitoring and control (see col. 4, line 16 – col. 5, line 22).

Regarding claims 25 – 28, it is inherently anticipated that the standard solutions utilized in the titration process would be either given or determined before implementing the titration process. The Courts have held that it is well settled that where there is a reason to believe that a functional characteristic would be inherent in the prior art, the burden of proof then shifts to the applicant to provide objective evidence to the contrary. See *In re Schreiber*, 128 F.3d at 1478, 44

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USPQ2d at 1478, 44 USPQ2d at 1432 (Fed. Cir. 1997). Furthermore, the use of calibration standards with chemical titration devices is well known in the art (see MPEP § 2144.03).

Regarding claims 29, 36 and 37, Tittle '590 teaches the use of conventional pH-sensitive electrodes (see col. 5, lines 35 – 51).

Regarding claims 30 and 31, Tittle '590 teaches the use of conductivity sensors (see col. 4, lines 23 – 42).

Regarding claim 32, Tittle '590 teaches the use of liquid level sensors (see col. 4, lines 3 – 15).

Regarding claim 33, Tittle '590 teaches that the computer may activate a detectable signal, such as an alarm, during monitoring and control (see col. 4, lines 43 – 63).

2. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mackenzie and Tittle '590 in view of Tittle '610, as applied to claims 1, 15 and 18 – 37 above, and further in view of Rolchigo et al. (U.S. Pat. No. 5,820,690 A). Regarding claims 16 and 17, as discussed above, Mackenzie does teach the determination of the alkalinity via titration of a cleaning bath using an acid-base reaction by the addition of an acid solution. Tittle '590 does teach the use of a titrator in monitoring the cleaning bath. Tittle '590 does not explicitly teach certain specific methods of titration, such as determining free and total alkalinity in determining cleaner bath activity. Rolchigo et al. does teach the use of titration in determining free and total alkalinity in determining cleaning bath mixture activity (see col. 10, lines 11 – 26). The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Consequently, a person of

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ordinary skill in the art would accordingly have had a reasonable expectation of success of incorporating the teachings of titration as taught by Rolchigo et al. for monitoring and operating a chemical cleaning bath. Therefore, it would have been obvious to a person of ordinary skill in the art to determine the total and free alkalinity of a cleaning bath as recited in claims 16 and 17.

Response to Arguments

Applicant's arguments filed 9/12/2005 have been fully considered but they are not persuasive. The applicant is arguing that the references individually do not teach the claimed invention, when the obviousness rejection is based upon the combination of the teachings of the two references. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as discussed above, Mackenzie does teach the determination of the alkalinity via titration of an alkaline cleaning bath containing an emulsifier or surfactant, which inherently utilizes an acid-base reaction, by the addition of an acid solution (see the *Alkalinity test* section, p. 2). In addition, Mackenzie further teaches that during the process of using the cleaning bath, the concentration of the alkali

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component will vary. Therefore, the addition of a replenishing component, such as an alkali agent, will be necessary to bring the cleaning bath to a proper effective concentration (see p. 3). The Courts have clearly recognized the benefits of automation, and in particular, Tittle recognizes the benefits of automation in chemical process monitoring and control applications. The Courts have held that to provide a mechanical or automatic means to replace manual activity, which accomplishes the same result, is within the ambit of a person of ordinary skill in the art. See *In re Venner*, 120 USPQ 192 (CCPA 1958). Both Tittle and Mackenzie are considered pertinent and analogous art. The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the art to provide an automated chemical process and control system and associated methodology to perform the claimed method as recited in the instant claims.

Furthermore, applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

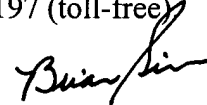
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)

A handwritten signature in black ink, appearing to read "Brian Kim", is located at the bottom right of the page.